

PROCEEDINGS
OF THE
CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

Vol. XIV, No. 3, pp. 77-81, plate 9

JULY 23, 1925

III

A NOTE ON TWO OF HYATT'S
LIASSIC AMMONITES

BY

C. H. CRICKMAY

While working on the Jurassic faunas of western North America I have found that there is a vast assemblage of *nomina nuda*—chiefly names applied with no, or with incomplete, description by Alpheus Hyatt. To “rescue” all of these would be a stupendous, a well nigh impossible, task. However, as the types become located it will no doubt be possible to recognize and redescribe many of the species. On account of the interest attached to the Liassic ammonites because of their rarity a special search was made for the holotypes of two species described by Hyatt¹ and supposed to be in the collection of the California State Mining Bureau, San Francisco. These are *Arnioceras woodhulli* and *Vermiceras crossmani*.

1. *Vermiceras crossmani* Hyatt

Plate 9, figures 1-5

The type specimens of this species were eventually discovered in the museum of the California Academy of Sciences where the paleontological collections of the State Mining Bureau have been deposited. There are three fragments, one of

¹ A. Hyatt: Jura and Trias at Taylorville, California. Bull., Geol. Soc. Am., Vol. 3, 1892, page 411.

July 23, 1925

which is obviously another species. Of the remainder, the specimen showing the internal whorls is taken as the lectotype. The third specimen which is a small portion of the outer whorls of a large individual will be regarded as a paratype. Of the lectotype, the following description can be given: On the youngest visible whorls (diameter=12 mm.) the ornament is of versi-radiate costæ, about nine in a quadrant. The youngest whorls showing the venter (diam.=25 mm.) show a strong keel bordered by two deep and narrow sulci. The costæ soon become slightly arcuate.

At a diameter of 85 mm. geniculæ become evident and the costæ run up on to the venter and form a ridge bordering the sulci. At 104 mm., the major diameter of the specimen, tuberculation is almost attained. At this size there are 13 costæ in a quadrant. The suture line is not preserved. The following additional details are obtained from the paratype which is from a specimen of about 260 mm. diameter. At this size the costæ no longer run into the ridges bordering the ventral sulci, and there is a concave area just below the ridges. This individualizes the latter, giving the shell the appearance of having three equal keels. The costæ are about 20 in a quadrant.

MEASUREMENTS

Diameter	25 mm.	104 mm.	260 mm.
Width of umbilicus divided by diam.	.54	.62	
Thickness divided by diam.....	.33	.21	.14
Umbilical suture to keel div. by diam.	.26	.19	.19

The result is *Vermiceras crossmani* Hyatt, 1892; family Ammonitidæ (=Arietidæ).

Holotype: No. 1760; *paratype*: No. 1761, Calif. Acad. of Sci., from Santa Fé district, Esmeralda County, Nevada; early Sinemurian age (Lower Jurassic). S. H. Crossman, Coll. Original No. 4089, Calif. St. Min. Bureau.

2. *Arnioceras woodhulli* Hyatt

The type specimens of *Arnioceras woodhulli* could not be found. It is believed by the authorities of the institutions concerned that they have been lost. Under such circumstances it might still be possible to recognize the species from the brief

description and the comparison with *Arnioceras humboldti* which has been figured², were the locality known. But Hyatt did not give this any more accurately than Inyo County, California. Hyatt described the species very briefly as resembling *A. humboldti* but having the pilæ more closely crowded, and with slight constrictions at intervals on the adolescent whorls. These were said to disappear later, giving place to slightly arcuate costæ.

In view of the uncertainty connected with this species it might be thought best by some to declare the name invalid. This course would probably be quite justified but it seems a pity to take the step yet while so little is known of the Lias of the western states. It may be that *Arnioceras woodhulli* is the only *Arnioceras* in Inyo County, in which case its recognition would be relatively certain. It may be that there is no other species like it in the type area. Or perhaps some one of Hyatt's distinctions will prove distinctive when the entire fauna is known. For these reasons it is thought best not to decide this matter until considerable collections have been obtained from the Liassic rocks of the type region.

² A. Hyatt: Genesis of the Arietidæ, Smithsonian Contrib. to Knowl., No. 673, 1889, p. 173, figs. 31-33.

PLATE 9

- Fig. 1. *Vermiceras crossmani* Hyatt. Holotype No. 1760 (Mus. Calif. Acad. Sci.) from Santa Fe District, Esmeralda County, Nevada. Lateral view, natural size.
- Fig. 2. *Vermiceras crossmani* Hyatt. Holotype. Cross section of outer whorl.
- Fig. 3. *Vermiceras crossmani* Hyatt. Paratype No. 1761 (Mus. Calif. Acad. Sci.) from Santa Fe District, Esmeralda County, Nevada. Lateral view, natural size.
- Fig. 4. *Vermiceras crossmani* Hyatt. Paratype, same specimen as Fig. 3; ventral view, natural size.
- Fig. 5. *Vermiceras crossmani* Hyatt. Paratype, same specimen as Fig. 3; apertural view, natural size.



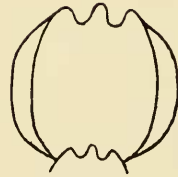
1



3



4



2



5